

High Efficient Surface Mount Rectifiers

Reverse Voltage 50 to 1000 Volts Forward Current 1.0 Ampere

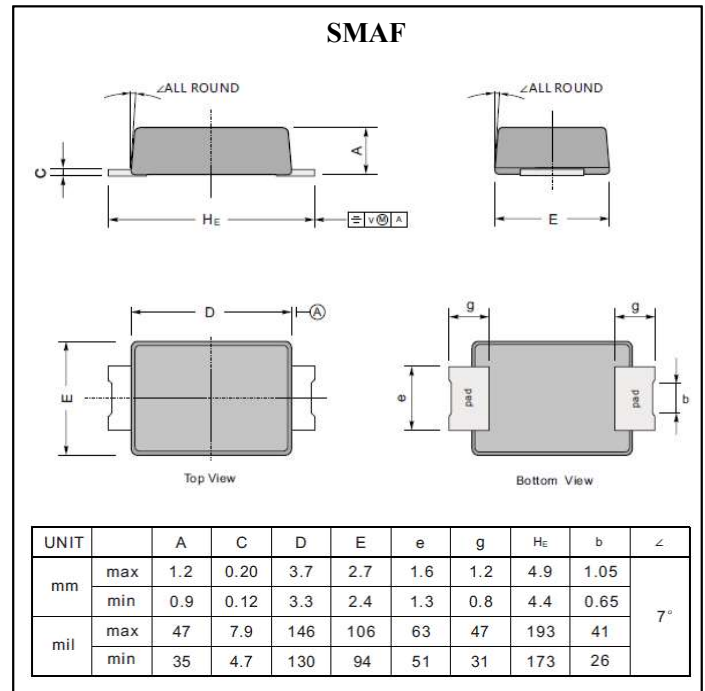
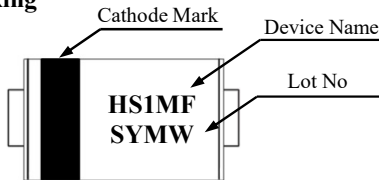
Features

- For surface mounted application
- Glass passivated junction chip
- Low forward voltage drop
- Low profile package
- Built-in stain relief, ideal for automatic placement
- Fast switching for high efficiency
- Plastic material used carries underwriters laboratory classification 94V-0
- High temperature soldering : 260°C /10 seconds at terminals

Mechanical Data

- Case : Molded plastic
- Terminals : Solder plated
- Polarity : Indicated by cathode band
- Packaging : 12mm tape per EIA STD RS-481
- Approx. Weight : 0.027gram

Marking



Maximum Ratings & Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified

Single phase half wave 60 Hz, resistive or inductive load

For capacitive load, derate current by 20%

Parameter	Symbol	HS1AF	HS1BF	HS1DF	HS1GF	HS1JF	HS1KF	HS1MF	Unit	Remark
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V	
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V	
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V	
Maximum Average Forward Rectified Current See Fig.1	I _{F(AV)}	1.0							A	
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	30							A	
Maximum Instantaneous Forward Voltage @ 1.0A	V _F	1.0		1.3	1.7			V		
Maximum DC Reverse Current at Rated DC Blocking Voltage	I _R	5.0							uA	T _a =25°C
		100							uA	T _a =100°C
Maximum Reverse Recovery Time	t _{rr}	50			75			ns	Note 1	
Typical Junction Capacitance	C _J	20			15			pF	Note 2	
Typical Thermal Resistance	R _{th(j-a)}	70							°C /W	Note 3
Operation Junction Temperature Range	T _J	-55 to +150							°C	
Storage Temperature Range	T _{STG}	-55 to +150							°C	

Note 1. Reverse Recovery Time Test Conditions : I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 2. Measured at 1MHz and Applied Reverse Voltage of 4.0Volts D.C.

Note 3. Mounted on P.C.B with 0.2"×0.2" (5mm×5mm) Copper Pad Areas

Ratings and Characteristics Curves (Ta=25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

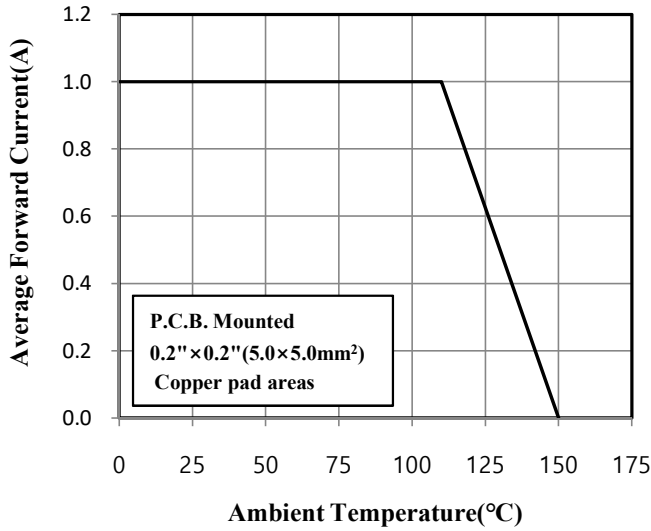


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

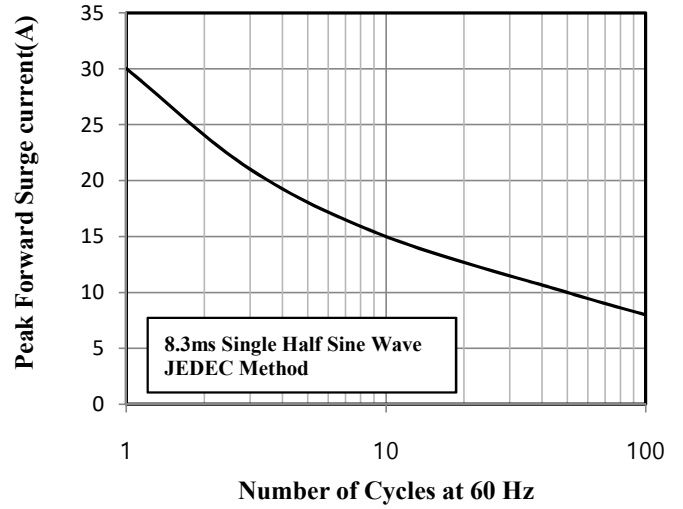


Fig.3 Typical Instantaneous Forward Characteristics

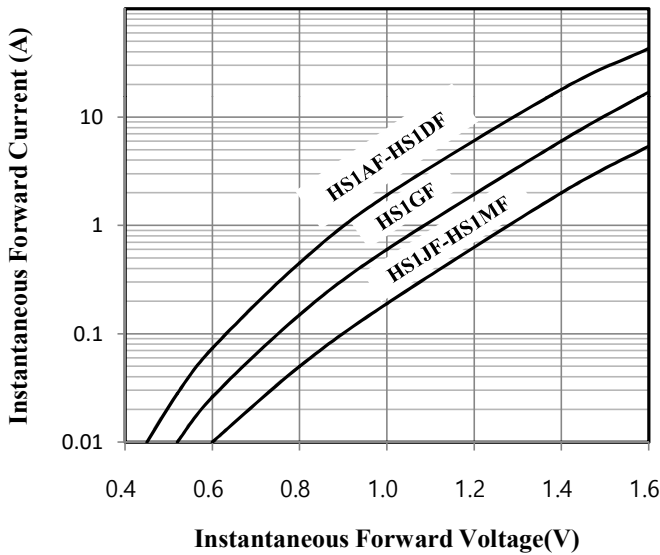


Fig.4 Typical Junction Capacitance

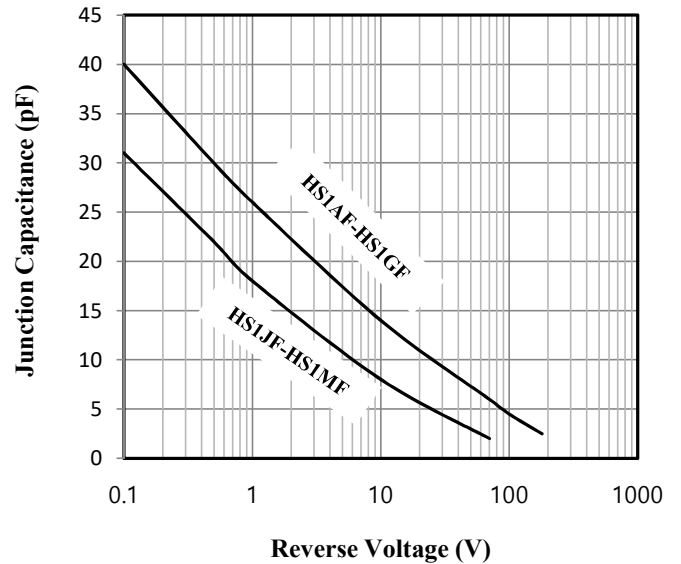


Fig.5 Typical Reverse Characteristics

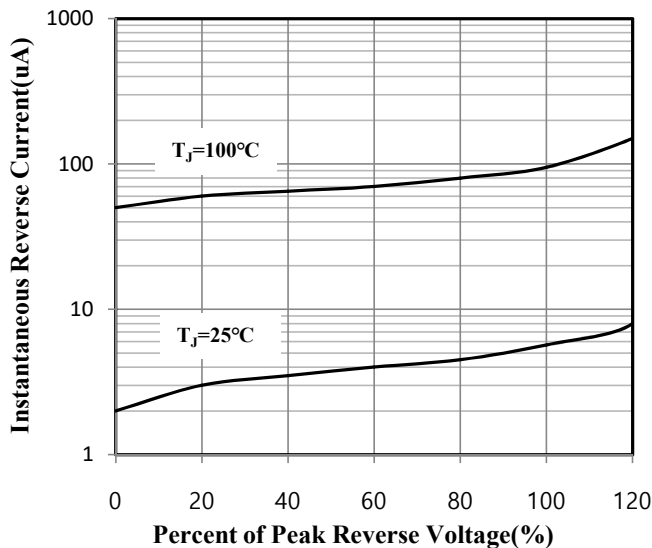


Fig. 6 Reverse Recovery Time Characteristic and Test Circuit Diagram

